5438

5438

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R.S.Patton, *Director*

State: S.W. Alaska

DESCRIPTIVE REPORT

~~*Topographic*~~
Hydrographic } *Sheet No.* 22 5438

LOCALITY

S.W. Alaska

N. E. Kodiak Id.

Mouth of Kizhuyak Bay

19 33

CHIEF OF PARTY

H. B. Campbell

U. S. GOVERNMENT PRINTING OFFICE: 1930

DESCRIPTIVE REPORT

to accompany

Hydrographic Sheet #22

Scale 1:20,000

U.S.C.& G.S.S. DISCOVERER
Season of 1933

H. B. Campbell
Chief of Party

-:-

AUTHORITY

This survey was made under the Director's Instructions dated April 21, 1932, Project No. HT-104, and March 25, 1933, Project No. HT-139.

LIMITS

This sheet coveres the mouth of Kizhuyak Bay between Whale and Spruce Islands. It joins Sheet #21 (H 5437) on the south, Sheet #41 (H 5442) on the north, and Sheet #23 (H 5439) on the east from the north side of Spruce Island.

METHODS OF SURVEY

The inshore hydrography was done by the ship's motorsailers out to 20 fathoms. The WESTDAHL continued with the hydrography out to 50 fathoms. Greater depths were surveyed by the ship.

The motorsailers used the hand lead out to 10 fathoms and the wire at greater depths. The WESTDAHL used the fathometer and developed the shoaler areas with the wire. Frequent vertical casts were taken while sounding with the fathometer for comparative purposes. The ship used the fathometer exclusively, except for an occasional vertical cast with the wire for comparison with the fathometer and to obtain bottom characteristics.

NOTE: Wire soundings by the ship are penciled on the sheet and enclosed in parentheses adjacent to the simultaneous fathometer soundings.

Fathometer corrections for the ship and WESTDAHL accompany this report.

ADDITIONAL WORK REQUIRED

The inshore hydrography was not done along the east coast of Whale Island, around the "Triplets" islands, nor along that portion of the north coast of Spruce Island included on this sheet. A casual survey, however, was made of these areas in 1907.

There are several shoals in the channel between Triangulation Station RAG and Triangulation Station TRIP that require further development to determine the shoalest depth. A 7 fathom sounding (reduces to $5\frac{1}{2}$) was obtained by the WESTDAHL at Lat. 57° 57.9', Long. 152° 27.7' between positions 135 and 136 E. This sounding should only be accepted as a shoal indication and therefore was not penciled on the sheet.

There are numerous other fathometer soundings in this channel that reduce to under 10 fathoms that require verification with the hand lead.

Sufficient work was done south of Low Island in 1929 on Sheet H-4922 to obviate a resurvey.

OTHER SHOALS

A 10 fathom sounding was picked up on the shoal at Lat. 57° 58.8', Long. 152° 41.4' with the fathometer after numerous wire soundings were taken in developing the area. Impending darkness rendered further investigation impossible at that time. The hydrographer believes this sounding to be good. It was therefore plotted.

Numerous wire soundings were taken around the 14 fathom shoal at Lat. 57° 56.4', Long. 152° 37.3' by the WESTDAHL. It is believed sufficiently well developed.

4/6 fathom was the least depth obtained by feeling around with the hand lead on the sunken rock at Lat. 57° 55.0', Long. 152° 36.6'. The area is marked with kelp.

CHANNELS

The approach to the entrance of Narrow Straits is marked by Three Brothers Light and a red nun and black can buoys. The channel is straight from this point to the entrance of the straits. A wire drag survey was made of this area on Sheet H-4922 in 1929. The controlling depth of the channel between buoys is 8 fathoms.

COMPARISON WITH PREVIOUS SURVEYS

A fairly complete survey was made in the vicinity of the west coast of Spruce Island and around the entrance to Narrow Strait in 1907, on Sheet H-2922. A few lines were also run across the mouth of the bay between Whale and Spruce Islands.

The two surveys agreed very well. In the more critical areas, however, shoaler soundings were obtained due to more thorough development.

Respectfully submitted,

Henry O. Foster

Approved and forwarded:

H B Campbell

H. B. Campbell,
H. & G. Engineer,
Chief of Party.

FATHOMETER CORRECTIONS USED

DISCOVERER

From 10 fm. to 37 fm. - - - - - - - - - - - - -1 fm.

From 38 fm. to 58 fm. - - - - - - - - - - - - -1/2 fm.

From 59 fm. up - - - - - - - - - - - - - - - - 0 fm.

-:-:-:-:-:-:-:-:-:-:-:-:-:-:-:-+-:-:-:-:-:-:-:-:-:-:-:-:-:-:-:-:-:-:-:-

WESTDAHL

Date	Day Letter	From (time)	To (time)	Correction
July 28	A	All day		0 fm.
Aug. 12	B	8:28 a.m.	9:13 a.m.	-½ fm.
"	"	9:13 a.m.	9:24 a.m.	0 fm.
"	"	9:24 a.m.	9:32 a.m.	+½ fm.
Aug. 25	C	8:50 a.m.	8:53 a.m.	+½ fm.
"	"	8:53 a.m.	9:19 a.m.	0 fm.
"	"	9:19 a.m.	9:47 a.m.	+½ fm.
"	"	10:12 a.m.	10:54 a.m.	0 fm.
"	"	10:54 a.m.	11:20 a.m.	-½ fm.
"	"	11:20 a.m.	11:49 a.m.	0 fm.
"	"	11:49 a.m.	12:33 p.m.	-½ fm.
"	"	12:33 p.m.	1:11 p.m.	0 fm.
Sept. 1	D	--------	8:15 a.m.	0 fm.
"	"	8:15 a.m.	8:26 a.m.	+½ fm.
"	"	8:26 a.m.	8:35 a.m.	+1 fm.
"	"	8:35 a.m.	8:44 a.m.	+1½ fm.
"	"	8:44 a.m.	8:49 a.m.	+2 fm.
"	"	9:02 a.m.	10:01 a.m.	+½ fm.
"	"	10:01 a.m.	10:19 a.m.	+1 fm.
"	"	2:27 p.m.	2:40 p.m.	0 fm.

FATHOMETER CORRECTIONS USED

WESTDAHL, Continued

Date	Day Letter	From (time)	To (time)	Correction
Sept. 1	D	2:40 p.m.	3:01 p.m.	+½ fm.
"	"	4:27 p.m.	4:36 p.m.	-½ fm.
"	"	4:36 p.m.	4:45 p.m.	0 fm.
"	"	4:45 p.m.	4:54 p.m.	+½ fm.
"	"	4:54 p.m.	4:59 p.m.	+1 fm.
"	"	4:59 p.m.	5:07 p.m.	+½ fm.
"	"	5:07 p.m.	5:15 p.m.	0 fm.
"	"	5:15 p.m.	5:19 p.m.	-½ fm.
Sept. 5	E	------	11:06 a.m.	+½ fm.
"	"	11:06 a.m.	11:41 a.m.	0 fm.
"	"	11:41 a.m.	12:04 p.m.	+½ fm.
"	"	12:04 p.m.	-------	+1 fm.
Sept. 8	G	-------	3:23 p.m.	+½ fm.
"	"	3:23 p.m.	3:55 p.m.	0 fm.
"	"	3:55 p.m.	5:11 p.m.	-½ fm.
"	"	5:11 p.m.	------	0 fm.
Sept. 13	H	------	12:24 p.m.	-½ fm.
"	"	12:24 p.m.	3:33 p.m.	0 fm.
"	"	3:33 p.m.	3:42 p.m.	+½ fm.
"	"	4:09 p.m.	4:23 p.m.	-½ fm.
"	"	4:23 p.m.	5:14 p.m.	0 fm.
"	"	5:14 p.m.	5:48 p.m.	+½ fm.
"	"	5:48 p.m.	6:00 p.m.	+1 fm.
"	"	6:00 p.m.	-------	+½ fm.

STATISTICS FOR SHEET, FIELD NO. 22

Vessel	Date 1933	Day Let.	Stat.Mi.Sdg.Lines H.L.	Wire	Fath.	No. of Soundings H.L.	Wire	Fath.	No. Pos.
DISC.	Aug.23	A	---	---	122.5	---	---	1271	211
"	Aug.24	B	---	---	32.3	---	12	319	79
Totals					154.8		12	1590	290
WEST.	July 28	A	---	---	22.6	---	3	306	80
"	Aug. 12	B	---	---	7.3	---	6	104	34
"	Aug. 25	C	---	12.7	12.9	---	143	239	197
"	Sep. 1	D	---	4.8	18.7	---	117	260	172
"	Sep. 5	E	---	2.8	28.2	---	32	357	155
"	Sep. 6	F	---	10.5	---	---	141	---	108
"	Sep. 8	G	---	---	24.5	---	9	326	90
"	Sep. 13	H	---	6.8	27.0	---	109	378	224
Totals				37.6	141.2		560	1970	1060
P.M.S.	Aug. 1	a	6.4	7.8	---	168	148	---	111
"	Aug. 2	b	8.0	12.0	---	274	214	---	160
"	Aug. 3	c	5.3	16.3	---	128	294	---	166
Totals			19.7	36.1	---	570	656	---	437
S.M.S.	Aug. 1	a	15.2	0.5	---	410	16	---	112
"	Aug. 2	b	5.3	18.0	---	130	310	---	129
"	Aug. 3	c	9.0	12.9	---	204	243	---	144
"	Aug. 4	d	5.0	15.2	---	206	210	---	144
Totals			34.5	46.6	---	950	779	---	529
Grand totals			54.2	120.3	296.0	1520	2007	3560	2316

RAQ

June 9, 1934

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
8 volumes of sounding records for

HYDROGRAPHIC SHEET 5438

Locality **Mouth of Kizhuyak Bay, Southwest Alaska**

Chief of Party: **H. B. Campbell in 1933**
Plane of reference is **mean lower low water, reading**
7.6 ft. on tide staff at **Kizhuyak Point**
11.9 ft. below B. M. **1**

Height of mean higher high water above plane of reference is 9.5 feet

Condition of records satisfactory except as noted below:

Paul T. Whitney

Chief, Division of Tides and Currents

Form 537

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

REG. NO. 5438

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 22

REGISTER NO. 5438

State S. W. Alaska

General locality [redacted]. Kodiak Island

Locality Mouth of Kizhuyak Bay

Scale 1/20,000 Date of survey Aug. - Sept., 1933

Vessel Ship DISCOVERER

Chief of Party H. B. Campbell

Surveyed by W. M. Scaife, H. J. Healy, R. J. Sipe, E. C. Baum

Protracted by K. S. Ulm and C. Weiss

Soundings penciled by M. E. Wennermark

Soundings in fathoms ~~feet~~

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by A. M. Uzefovich

Verified by A.M.U.

Instructions dated April 21, 1932 and March 25, 1933

Remarks:

U. S. GOVERNMENT PRINTING OFFICE

Partial Report

on H 5438

July 3-1934

1./ The protracting on this sheet was checked by a visual comparison with the boat sheets. A few positions were protracted and no mistakes were discovered — the protracting apparently being well done.

2./ The soundings were neatly penciled and quite legible.

3./ The datum note was omitted from the smooth sheet by the field party.

4/ The ~~[illegible]~~ topography was only partially transferred to the smooth sheet by the field party — This was completed by the verifier.

5./ The topographic sheet for the west side of KIZHUYAK BAY - above Lat. 57°-54' has not been received in this office and therefore the shoreline could not be transferred to the smooth sheet.

6./ The 5½ fathom sdg. between pos 135 and 136 E at Lat. 57°-57.9' and Long. 152°-27.7' - although questioned in the sounding records - is substantiated by shoal indications on adjacent parallel lines and should be charted until further development of this area is made.

Respectfully Submitted
Warren H Bamford

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 5438

The following statistics will be submitted with the cartographer's report on the sheet: WHB

Number of positions on sheet	2316
Number of positions checked	31
Number of positions revised	NONE
Number of soundings recorded	7087
Number of soundings revised	(NONE) 26 A.M.U. ← Erroneous figures
Number of signals erroneously plotted or transferred	NONE

Date: July 3-1934, Aug. 21, 1934

Cartographer: J. Warren W. Bamford
Alexis M. Uzefovich

Verification of protracting by W.W. Bamford Time: 2 days - 1½ hr.
Verification & inking of rocks and shoals by "

Verification and inking by A.M. Uzefovich Time: 140 hours = 20 days

Review by R.J. Christman Time: 16½ hours.

August 21, 1934.

Section of Field Records

Report on H. 5438.

Chief of Party - H. B. Campbell - Surveyed in Aug. - Sept. 1933.
Surveyed by - W. M. Scaife, H. J. Healy, R. J. Sipe, and E. C. Baum.
Protracted by - K. S. Ulm, and C. Weiss.
Soundings plotted by - M. E. Wennermark.
Verified and inked by - A. M. Uzefovich.

1. The records conform to the requirement of the General Instructions.

2. The field plotting was completed to the extent prescribed in the General Instructions.

3. The hydrography is complete, and the usual depth curves can be drawn.

4. The office cartographer did not have to do over any part of the drafting done by the field party.

5. The junction with adjacent sheet H. 5437 was verified, and it is satisfactory.

The junctions with adjacent sheets H. 2922, H. 2926, and H. 2927 (all surveyed in 1907, scale 1:20,000) were not verified.

The junction with adjacent sheet H. 4922 (surveyed in 1929, scale 1:10,000) was not made.

The junction with adjacent sheet H. 5422 [4] was not made as this sheet was not yet completed.

6. <u>Remarks</u>: Soundings between positions, taken on turns in course of boat on the northern, and southern limits of sheet, were omitted, as they do not appear on the boat sheet, and they were not plotted on the smooth sheet by the field party.

Soundings near ⊙ Far, and ⊙ Gid (Lat. 57°57'.3, Long. 152°29'3) were inked, as they were penciled on the smooth sheet, protracting on which was checked previously, but there is some difference in comparison with Boat Sheet (the soundings $2\frac{1}{2}$ and 2 5/6 fathoms on the Boat Sheet are shown closer to the shoreline). Therefore the depth curves of 3 and 5 fathoms were not made at this spot on H. 5438 until a final decision.

Deeper m[illegible] [illegible] curves completed. [illegible]

Some positions and day letters are too small to be legible, and much time was consumed in identifying such positions.

7. The quality of the work is fair.

Respectfully submitted,

Alexis M. Uzefovich

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5438 (1933)

Mouth of Kizhuyak Bay, Kodiak Island, S.W. Alaska
Instructions dated April 10, 1931, April 21, 1932, March 25, 1933 (DISCOVERER)
Surveyed August - September, 1933.

Hand Lead, Machine and Fathometer Soundings 3-Point Control on Shore Signals

Chief of Party: H. B. Campbell
Surveyed by: W. M. Scaife, H. J. Healy, R. J. Sipe, E. C. Baum .
Protracted by: K. S. Ulm, C. Weiss.
Soundings penciled by: W. E. Wennermark
Verified and inked by: W. H. Bamford, A. M. Uzefovich.

1. Condition of Records.

The records conform to the requirements of the Hydrographic Manual. Shore line and inshore details were not complete on the smooth sheet. Necessary additions have been made in the office.

2. Compliance with Instructions for the Project.

The survey complies with the instructions for the project with the following exceptions:

a. The area in the general vicinity of lat. 57°57'0, long. 152°42'0, was not well covered and the 50 fathom curve not defined.

b. The inshore area on the east coast of Whale Island, covered by H-2927 (1907), was not surveyed. It was intended that the entire area covered by H-2927 (1907) be resurveyed but the present survey makes a junction with it off Whale Island. There may have been some misunderstanding about this as the intent of the instructions would not be clear unless par. 6 of the 1933 instructions were applied to par. 8 of the 1932 instructions.

c. The area east of long. 152°30'0 was not completely surveyed. Inshore areas around The Triplets and North Cape were not covered and shoals in this locality were not developed. (See paragraph 2, Page 3, of D. R. for comment.)

3. Sounding Line Crossings.

Agreement of depths at crossings is very good averaging considerably less than 4 percent of the depth.

4. Depth Curves.

Except for the 50 fathom curve at the junction with H-2927 (1907) and the curves around North Cape and The Triplets, the usual depth curves may be drawn within the limits of the survey including portions of the 5, 3, 2 and 1 fathom curves.

5. Junction with Surveys.

a. H-5437 (1933) and H-5442 (1933).

The junction with these surveys is satisfactory and the agreement in depth is very good.

b. H-5439 (1933).

A satisfactory junction on the east has been made with H-5439 (1933) although the inshore areas off North Cape were not covered.

c. H-2926 (1907).

Satisfactory junctions are made off the southern and northeastern ends of Whale Island with this survey. The soundings are in fair agreement in the small overlapping areas.

d. H-4922 (1929).

This survey shows some hydrography and a drag strip in the channel northeast of Low Island and also covers an area south of the island. The shoaling on the north side of the channel, near Red Nun Buoy No. 2, was not developed by the present survey. The soundings in the channel are in good agreement with the new work.

The area S.S.W. from Low Island was not covered by the present survey but a satisfactory junction with H-4922 (1929) was effected. H-4922 (1929) should be used in conjunction with H-5438 (1933) for charting purposes.

e. H-2922 (1907).

This survey covers quite a large area northwest of Spruce Island and joins with the new work at the entrance to Narrow Strait. It is in general good agreement with the present survey which is much more detailed. Several new shoals were found on the new survey, between The Triplets and Spruce Island and shoaler depths were generally obtained on the shoals located by the old survey.

A 17 foot depth is shown on H-2922 (1907) in lat. 57°55'.1, long. 152°32'.9. This is not an actual sounding but was placed on the sheet on the strength of a note in the descriptive report which reads "about 17 feet." The least sounding obtained on H-2922 (1907) was 21 feet but a sounding of 19 feet was found on H-4922 (1929). This shoaling was not developed on the present survey. Because of the uncertainty both as to

5. e. H-2922 (1907).

depth and location concerning the 17, it should be replaced by the 19 in future charting.

A sounding of 47 feet shown on H-2922 (1907) in lat. 57°55'.5, long. 152°31'.8, has been added to H-5438 (1933).

Two rocks awash shown on H-2922 (1907) in approximate lat. 57°57'.5, long. 152°28'.0, originate from T-2854 (1907). These rocks were not located on the present survey and they have been added to H-5438 (1933).

6. Comparison with Prior Surveys.

The surveys of 1907 and 1929 are treated as contemporary surveys under par. 5c, d and e, above.

a. H-3016 (1909).

Only a few sounding lines from this survey fall within the limits of H-5438 (1933) in the area between Whale Island and The Triplets. While the soundings from H-3016 (1909) are in fair general agreement with the present survey, it will be unnecessary to use them for charting.

b. H-2927 (1907).

The area covered by this survey will probably be resurveyed but at the present time it joins with the present survey off the eastern coast of Whale Island. H-2927 (1907) is an uncompleted survey and the sounding lines are widely spaced. Some of the fixes are weak and considered only approximate by the verifier. Several sounding lines cross the bay and overlap the present survey. These lines are not in very good agreement with the recent work, which is more accurately controlled. Within the limits of the present survey, the soundings from H-2927 (1907) should not be used for charting.

7. Comparison with Chart No. 8570.

A sunken rock symbol shown on the chart in lat. 57°55'.0, long. 152°33'.0, is by authority of Chart Letter No. 329, 1930, which reports the grounding of the REDONDO. The position of the vessel was located by bearings and estimated distances. As the sunken rock falls on a shoal on which additional work is recommended it should be retained on the chart until the new examination is received.

The most important shoals on this survey have been shown on the chart by hand corrections from a preliminary report, Chart Letter No. 494, 1934.

With the above exception, within the area of the present survey

7. Comparison with Chart No. 8570.

the chart is based on surveys discussed in the foregoing paragraphs and contains no additional information that needs consideration in this review.

The two buoys marking the channel northwest from Low Island are the only aids to navigation within the limits of this survey. These were located in substantially the same positions in which they are charted.

8. Field Plotting.

Protracting of positions and plotting of soundings were very well done. A few position numbers and day letters were very small, making it hard to identify some positions in the more crowded areas.

9. Additional Field Work Recommended.

For Future Consideration.

a. The area in the vicinity of lat. 57°57'.0, long. 152°43'.0, should be more closely covered and the 50 fathom curve better defined. In this connection attention is called to the fact that H-2927 (1907) is an uncompleted survey and does not adequately cover the inshore area on the east side of Whale Island. It was the intent of the instructions that this area be resurveyed.

b. The work should be carried further inshore in the areas around The Triplets and off North Cape.

c. The numerous shoals between The Triplets and Spruce Island should be developed and a close examination made at the 5½ fm. fathometer sounding in lat. 57°58'.0, long. 152°27'.6.

d. In connection with additional work in this vicinity, attention is called to the fact that the least depth on shoal adjacent to Red Nun Buoy No. 2 (lat. 57°55'.0, long. 152°33'.0) has never been determined. (See par. 5e, this review.)

10. Superseding Old Surveys.

Within the area covered, the present survey supersedes the following surveys for charting purposes:

H-2922 (1907) ... In part.

H-2927 (1907) ... In part.

H-3016 (1909) ... In part.

11. Reviewed by R. J. Christman and R. L. Johnston - November, 1934.

Supervised by A. L. Shalowitz.

Examined and approved:

C. K. Green, C. K. Green
Acting Chief, Section of Field Records.

L. O. Colbert
Chief, Division of Charts.

T. S. Borden
Chief, Section of Field Work.

G. Rude
Chief, Division of H. & T.

75 Jan 24, 1936
EAH